CLAIMS

1.   A page composition method for composing a page from elements in a continuous tone pixelized form or in a bit-mapped form for printing comprising:

      (a) determining the positions of the elements on a printed page;

      (b) dividing the page into bands;

      (c) serially transferring pixel data values for sections of bands corresponding to the portions of respective elements in a band, to a buffer memory, wherein the data from the portion of one element in a band is completely read prior to reading data corresponding to the portion of a second element in the band;

      (d) writing the data to a buffer memory as it is read; and

      (e) transferring the data from the buffer memory when all the data corresponding to all portions of all elements in the band is written in the buffer memory.

2.   A page composition method according to claim 1 wherein certain of the pixel values in certain elements are indicated as being transparent and wherein no data is written into the buffer memory for such pixel values.

3   A page composition method according to claim 1 or claim 2 and including:

      determining the relative layer of the overlapping elements,

      wherein the portions of the elements in the band are transferred to the buffer memory in an order which corresponds to the determined relative layer of the overlapping elements.

4.   A page composition method according to claim 3 wherein certain of the pixel data values are indicated as being opaque and wherein pixel data from an underlying layer is replaced by data from an overlying opaque layer.

5.   A page composition method according to claim 3 or claim 4 wherein certain of the pixel values are indicated as being of a transitional nature and wherein the data in the buffer is a combination of the data in an overlapping layer and in an underlying layer.

6.   A page composition method according to claim 5 wherein the combination of data is a weighted average of the pixel values in the upper and lower layers.

7.   A page composition method according to any of the preceding claims wherein after transfer of data, corresponding to a band, to a buffer memory is completed, the data is transformed into bit mapped form suitable for printing.

8.   A page composition method according to any of the preceding claims wherein after all of the data corresponding to a given band to a buffer memory is completed, (c) - (e) are repeated for a second band.

9.   A page composition system according to claim 8 wherein the data for the second band is transferred into a second buffer memory.

10.   A page composition method according to claim 9 wherein the data corresponding to the second band is transformed into bit mapped form suitable for printing after data for the first band is so transformed.

11.   A page composition method according to any of the preceding claims and including zeroing the pixel values in a buffer memory after data from the memory is transferred therefrom.

12.   A page composition method according to claim 11 and including repeating (c)-(e) for an additional band, wherein said data is written into a buffer memory into which data for another band was written previously after such data is transferred therefrom.